Royale des Sciences, Prof. Léon Fredericq and Prof. Chevalier Edouard Descamps. *Budapest.*—Magyar Tudomanyos Akademia, M. Charles Than and M. Ignatius Goldziher. *Christiania.*—Videnskabs Selskabet, Prof. H. Mohn and Prof. G. Guldberg. *Copenhagen.*—Kongelige Danske Videnskabernes Selskab, Prof. J. L. Heiberg and Herr Paulsen. *Göttingen.*—Königliche Gesellschaft der Wissenschaften, Prof. E. Ehlers, Prof. F. Leo, Prof. F. Kielhorn and Prof. E. Riecke. *Leipzig.*—Kgl. Sächsische Gesellschaft der Wissenschaften, Prof. Dr. Flechsig and Prof. Dr. Credner. *London.*—Royal Society, Sir William Huggins, Mr. A. B. Kempe, Prof. Larmor, Mr. Francis Darwin, Sir Michael Foster, Lord Kelvin, Prof. Armstrong, Mr. George Darwin, Prof. Forsyth, Sir David Gill, Prof. Liversidge, Sir Norman Lockyer, K.C.B., Prof. Schuster, Dr. Waller, Sir William Ramsay, K.C.B., Mr. Bateson and Prof. Milne. *London.*—The British Academy for the Promotion of Historical, Philosophical, and Philological Studies, Lord Reay, Right Hon. James Bryce, Sir R. C. Jebb, Dr. Caird, Sir C. P. Ilbert, K.C.S.I., Right Hon. Sir A. Lyall, G.C.I.E., K.C.B., and Prof. Rhys Davids. *Madrid.*—Real Academia de Ciencias, Señor José Echegaray and Prof. Santiago Ramon y Cajal. *Munich.*—Kgl. Bayerische Akademie der Wissenschaften, Prof. Ferdinand Lindemann and Prof. Karl Krumbacher. *Paris.*—Académie des Inscriptions et Belles Lettres, M. Georges Perrot, M. Emile Senart, M. le Comte de Lasteyrie, M. H. Omont, M. M. Collignon and M. J. Lair. *Paris.*—Académie des Sciences, M. Mascart, M. Gaston Darboux, M. Henri Poincaré, M. H. Moissan, M. A. de Lapparent and M. A. Giard. *Paris.*—Académie des Sciences Morales et Politiques, M. Georges Picot, M. Paul Leroy-Beaulieu, M. Glasson, M. le Comte de Franqueville, M. Boutroux, M. le Baron de Courcel, M. Henri Joly and M. Paul Meyer. *Rome.*—R. Accademia dei Lincei, Prof. Giacomo Ciamician and Count Ugo Balzani. *St. Petersburg.*—Académie Impériale des Sciences, Msr. A. S. Famintzin and Prof. C. H. Salemann. *Stockholm.*—Kongl. Vetenskaps Akademien, Prof. G. Retzius and Prof. S. E. Henschen. *Vienna.*—Kaiserliche Akademie der Wissenschaften: A.—Mathematish-naturwissenschaftliche Klasse, Prof. Viktor von Lang, Prof. Sigmund Exner, Dr. Edmund Mojsisovics, Edler von Mojsvar, and Prof. Heinrich Obersteiner. B.—Philosopisch-historische Klasse, Prof. Theodor Gomperz, Prof. Joseph Karabacek and Prof. Leopold von Schroeder. *Washington.*—National Academy of Sciences: Its foreign members—Sir Archibald Geikie and Prof. E. Ray Lankester.

NOTES.

THE following candidates selected by the council of the Royal Society were duly elected at the meeting on Thursday last, May 5:—Dr. T. G. Brodie, Major S. G. Burrard, Prof. A. C. Dixon, Prof. J. J. Dobbie, Mr. T. H. Holland, Prof. C. J. Joly, Dr. Hugh Marshall, Mr. Edward Meyrick, Dr. Alexander Muirhead, Dr. G. H. F. Nuttall, Mr. A. E. Shipley, Prof. M. W. Travers, Mr. Harold Wager, Mr. G. T. Walker, and Prof. W. W. Watts.

AN influential committee has been formed for the purpose of striking a medal in honour of the memory of the late Prof. Cornu. The committee includes many members, foreign associates and correspondants of the Institute of France, as well as other leaders in the scientific world. The medal will be in bronze, silver bronze and silver, and the price will be 15 francs, 20 francs, and 50 francs respectively. Subscribers for the medal are invited to send their subscriptions to M. E. A. Martel, 8 rue Ménars, 2e Arrondissement, Paris.

AT its meeting on Monday, May 9, the Academy of Sciences of Paris elected Prof. Barrois, of Lille, to fill the vacancy left in the section of mineralogy by the death of the illustrious Fouqué. This recognition of the claims of one of the most distinguished geologists of the present day will be welcomed far and wide, and nowhere more warmly than in the British Isles, where M. Barrois has many attached personal friends, and where he has himself done so much to illustrate the geology of this country.

As was generally expected, Prof. Rothpletz has been appointed to the chair of geology in the university at Munich and to the directorship of the State geological collections—the posts left vacant by the death of the lamented K. von Zittel. He has long been connected with the university, and has gained a wide reputation as an accomplished field geologist and a good palæontologist. His researches into the tectonics of the Alps have attracted much attention in this country, where he has many personal friends, and where he has made many geological excursions.

AT a meeting of the U.S. National Academy of Sciences on April 21, Sir William Ramsay, K.C.B., was elected a foreign associate of the academy.

A REUTER message from Cape Town reports the arrival there of the steam yacht *Scotia*—the vessel in which the Scottish Antarctic Expedition sailed.

THE death is announced of Mr. Eli Sowerbutts, who for the last twenty years had acted as secretary of the Manchester Geographical Society, which he was largely instrumental in founding. Mr. Sowerbutts was in his seventieth year.

PROF. ÉMILE BOURQUELOT, of Paris, Sir Henry Littlejohn, and Dr. J. Wilson Swan, F.R.S., have been elected honorary members of the Pharmaceutical Society of Great Britain. The following have been elected corresponding members of the society:—Prof. E. Perrot, Paris; Prof. Heinrich Beckurts, Brunswick; Prof. Carl Hartwich, Zürich; Mr. S. T. Dunn, of the Hong Kong Botanical Gardens; and Dr. G. W. Parker, British Guiana.

THE following have been elected honorary members of the Royal Institution:—Prof. E. H. Amagat, Prof. L. P. Cailletet, Prof. J. M. Crafts, Prof. H. A. Lorentz, Prof. E. W. Morley, Prof. E. C. Pickering, Prof. and Madame Curie, Prof. H. L. Le Chatelier, Prof. G. Lippmann, Prof. J. W. Bruhl, Prof. G. H. Quincke, Prof. E. Fischer, Prof. F. W. G. Kohlrausch, Prof. H. Landolt, Prof. L. Boltzmann, Dr. H. Kamerlingh Onnes, Dr. G. Lunge, Prof. P. T. Cleve and Prof. P. Zeemann.

PROF. VAN 'T HOFF offers through the medium of the *Zeitschrift für physikalische Chemie* a prize of 60*l.* for the best and most complete synopsis of the literature of catalytic phenomena. Competitors are required to send in their papers before June 30, 1905, to the editors of the *Zeitschrift*, 2 Linnéstrasse, Leipzig, and the judges are Profs. van 't Hoff, Arrhenius and Ostwald.

AN international congress on philosophy has been arranged to take place at Geneva from September 4 to 8 under M. Ernest Naville as honorary president and Prof. Gourd as acting president. The languages used will be English, French, German and Italian. The congress will be divided into five sections, dealing with history of philosophy, general philosophy and psychology, applied philosophy, philosophy of the sciences, and history of science. The secretary is Dr. Ed. Claparède, 11 Champel, Geneva.

THE British Fire Prevention Committee offers a gold medal and a purse of 20*l.* for the best fable for children calculated to serve as a warning against the danger of

playing with matches or fire. Two silver and four bronze medals will also be given as additional awards for meritorious essays. The conditions can be obtained at the committee's offices, 1 Waterloo Place, London, S.W., upon application by letter, enclosing a stamped addressed envelope.

FOLLOWING the example of some other counties, a society has been formed for the photographic record and survey of Kent. The society is promoted by the South-Eastern Union of Scientific Societies, and its objects are "to make and preserve by permanent photographic prints, records of the present condition of objects of archæological, historical, or scientific interest · the geology, fauna, and flora of Kent; the customs and costumes of its people, notable events, and portraits of its prominent men and women." Good promise of support has already been received, and a successful first exhibition in June seems assured, but further help is desired. The organising secretary (*pro tem.*) is Mr. H. Snowden Ward, Hadlow, Kent.

A CORRESPONDENT of the *Times* directs attention to some of the geographical work done by the late Admiral Makaroff. In the early eighties of last century, Makaroff wrote a brochure of 147 pages, with nine charts, on the interchange of the waters of the Black Sea and Mediterranean, which was published by the Russian Academy of Sciences and awarded a full premium. On his return from his voyage in the *Vitiaz* in 1893 he wrote a report of his observations—848 pages and 33 charts. The report was likewise published and awarded a full premium by the Russian Academy. In 1901 he published an account of his ice-breaking steamer the *Yermak* and her work under the title of "The *Yermak* in the Ice."

WE are not concerned in these columns with the cause or course of the war between Japan and Russia, but it is impossible to read of the remarkable achievements of the Japanese without remembering that they owe their success to the encouragement of education and science. A writer in the *Daily Graphic* points out that while probably 95 per cent. of the Russian soldiers are illiterate, not more than 5 per cent. of the Japanese are illiterate, and he attributes the Japanese successes to their intelligence and initiative. It does not seem possible for the Russian soldiers to be placed in dispersed positions to think and act for themselves. "As for the officers," the writer continues, "where is genius to come from? The broad, liberal-minded men have been sent to Siberia, and all who have shown the characteristic mark of leadership in its contempt for bureaucracy have set a seal on their careers." Whatever may be said about Russia, it is certain that Japan is now furnishing the world with an example of "the influence of brain-power on history." Last September Sir Norman Lockyer referred in his British Association address to "the intellectual effort made by Japan, not after a war, but to prepare for one." Recent events have shown that the nation which endows universities and encourages science is making the best possible provision for military or naval conflict as well as for industrial competition.

IN the death of Dr. Charles Ricketts, at the advanced age of eighty-six, geological science has lost an ardent local worker, who practised as a physician for many years at Birkenhead, and devoted his leisure to the study of geology, more especially in Cheshire and Lancashire. He was twice president of the Liverpool Geological Society, and most of his geological papers were published in the *Proceedings* of that society. An interesting article, which he communicated in 1883 to the *Geological Magazine*, was on the influence of accumulation and denudation in causing oscillation of the earth's crust; in this he embodied deductions made and published by him as early as 1865. Dr. Ricketts was for many years a regular attendant at the meetings of the British Association.

THE fossil foot-prints of the Jura-Trias of North America form the subject of a memoir by Dr. R. S. Lull (*Mem.* Boston Soc. Nat. Hist., vol. v., No. 11, April). Two groups of foot-prints have been found impressed on the ancient shales and sandstones, the one bipedal and the other of quadrupedal gait. Both groups are considered to belong to dinosaurs. These are the only vertebrates the gait of which when erect could have been a true walk or run with alternating steps, which without exception the bipedal tracks show, there being no instance of the record of a jumping form. Of the truly quadrupedal forms, those referred to Batrachopus may have belonged to a true dinosaur which had retained, among other primitive characters, the ancestral quadrupedal gait. The mode of progression was a true walk like that of a mammal, and not the crawl of modern reptiles.

THE Geological Survey has issued a colour-printed drift map of the area around London, on the scale of one inch to a mile, in four sheets, price 1*s.* 6*d.* each. The execution of this map has been carried out at the Ordnance Survey Office, and the colour printing is in all respects excellent. The map is intended to replace the old hand-coloured geological map of London and its environs, the cost of which was 30*s.* This reduction in price will be a boon to all interested in the geology of the metropolitan district. The new map does not cover quite so large an area as the old one, but it extends on the north to Watford, Enfield, High Beech and Kelvedon Hatch; on the east to Brentwood, Upminster, West Thurrock, Greenhithe and Kingsdown; on the south to Shoreham, Croydon, Sutton, Ewell and Byfleet; and on the west to Chertsey, Staines, Uxbridge and Rickmansworth. The results of a recent six-inch survey of the Thames valley deposits have been incorporated on the new map, the brickearths not having previously been accurately defined.

WE have received from the president of the International Aëronautical Committee a summary of the balloon and kite ascents made in various countries during the months of January to March. Among the highest altitudes reached we may mention the ascents from Paris, 15,000 metres; Pavia, 13,000 metres; Strassburg, 15,500 metres; Munich, 13,000 metres; Pavlovsk, 18,960 metres; Guadalajara, 13,220 metres; and Zürich, 14,430 metres. Mr. Dines's kite at Oxshott attained an altitude of 1100 metres. The meteorological results are reserved for future discussion; unfortunately several of the records have not been recovered.

THE daily weather report issued by the Meteorological Office on May 4 contains a small inset chart showing the total amount of rainfall recorded in the United Kingdom in the seventeen weeks ended April 30, together with the percentage of the average amount. In all districts excepting the north-east of England the fall has been in excess of the average. In the extreme north (Scotland) the amount is 121 per cent. of the average, and in the extreme south (Channel Islands) 144 per cent.; in the north-west of England it is 122 per cent. In Ireland the amount is 126 per cent. in the north and 116 per cent. in the south. In the east and north-east of England the fall has been practically normal.

A LETTER received from Mr. W. Comery, Llandilo, Carmarthenshire, gives an account of variations noted in the parts of the flower of the primrose during the current year, and provides data for comparison with the observations recorded by Mr. T. G. Hill in the *Annals of Botany*, June, 1902. According to our correspondent, variation in the number of parts was confined to 4 and 6, except in the cases where one flower had 8 sepals, 7 petals, and 6 stamens, two were decamerous, and one was trimerous. The corolla showed the greatest amount of variation; of ninety-four irregular flowers, 79 per cent. showed reduction in the number of petals, and the proportion of long styled to short styled was nearly 7 : 3, but of twenty flowers showing increase in the number of petals the proportion was exactly inverse.

AN extensive series of observations on the number of fungus spores present in the air has been made by Mr. K. Saito (*Journ.* of the College of Science, Imp. Univ., Tokyo, Japan, xviii., art. 5). The observations were made in the Botanic Garden, streets, operating theatre of the hospital, and certain rooms. It was found that the spores were more numerous in warm and damp than in cold and dry weather, and that rain and snow diminished while a strong wind increased their number. The commonest species were *Cladosporium herbarum, Penicillium glaucum* and *Epicoccum purpurascens*. Three new species are described. The article is illustrated with charts and a number of figures; the latter would prove useful in the identification of the species of fungi that might be met with in laboratories, &c.

WITH the exception of one on field-practice with the aneroid, and a second on the moths of the family Geometridæ, the articles in the second part of vol. xvi. of the *Proceedings* of the Royal Society of Victoria are devoted to palæontological and geological subjects. Three of these are communicated by Mr. F. Chapman, who describes Jurassic Foraminifera and Ostracoda from W. Australia, Palæozoic and Mesozoic invertebrates from W. Australia and Queensland, and various Palæozoic fossils from Victoria. Mr. C. M. Maplestone discusses the fossil Selenariidæ of the last named colony.

ACCORDING to the report for last year, the hatching of sea-fish at Piel has been most successful, nearly 15,000,000 fry having been obtained from about 17,000,000 eggs. This gives a total loss of rather less than 11 per cent. for the whole operations, which is almost certainly vastly below what occurs in nature. It is incidentally mentioned by Prof. Herdman that plaice in the closed Scotch waters have been found to run much larger than on the over-fished Lancashire coast. The feature of the report under consideration—namely, that on the Lancashire Sea-Fisheries Laboratory—is, however, undoubtedly Dr. J. H. Ashworth's elaborate and beautifully illustrated account of the life-history and structure of the lug-worm, which is the result of several years hard and careful work.

AMONG recent mathematical papers published in the United States may be noticed the following:—L. E. Dickson, determination of all the subgroups of the known simple group of order 25920 (*Trans.* Amer. Math. Soc., v. p. 126); C. N. Haskins, on the invariants of quadratic differential forms (*ibid.*, p. 167); C. Arzelà, note on a series of analytic functions (*Ann. of Math.* (2), v., p. 51); A. G. Greenhill, the mathematical theory of the top (*ibid.*, p. 67); H. A. Converse, on a system of hypocycloids of class three (p. 105); E. B. Wilson, projective and metric geometry (p. 145); W. F. Osgood, on a gap in the ordinary presentation of Weierstrass's theory of functions (Amer. Math. Soc. *Bull.*, March). The first number of vol. xxvi. of the *American Journal of Mathematics* is accompanied by a portrait of Prof. Noether; its principal contents relate to the theory of groups, but there is a paper by Prof. Bromwich on caustics which is of a less abstract character.

MESSRS. J. AND A. CHURCHILL have published a sixth edition of "A Manual of Dental Anatomy: Human and Comparative," by Mr. Charles S. Tomes, F.R.S.

MESSRS. ILIFFE AND SONS, LTD., have published sixth editions of "Photography for All," by Mr. W. Jerome Harrison, and of "Practical Enlarging," by Mr. John A. Hodges. The price of each book is 1s. net.

A SIXTH edition of "A Treatise on Hydromechanics. Part i. Hydrostatics," by Dr. W. H. Besant, F.R.S., and Mr. A. S. Ramsey, has been published by Messrs. George Bell and Sons. For the present edition the text has been carefully revised, and considerable additions have been made to some sections of the book.

A SECOND edition of Mr. T. W. Cowan's "The Honey Bee: its Natural History, Anatomy, and Physiology," has been published by Messrs. Houlston and Sons. The first edition was reviewed at length in our issue of April 23, 1891 (vol. xliii. p. 578). It is consequently only necessary to add that the present edition has been revised and corrected.

THE delegates of the Clarendon Press have taken over the series of geographical memoirs known as "The Regions of the World," which is under the general editorship of Mr. H. J. Mackinder, and in future this series will be published by Mr. Henry Frowde. Two new volumes will be issued this year—"North America," by Prof. Israel Russell, of the University of Michigan, at the end of this month, and "India," by Sir Thomas Holdich, K.C.I.E., in the early autumn. It is hoped that "The Far East," by Mr. Archibald Little, will soon be in the press.

IN the March number of the *Journal of Physical Chemistry*, Messrs. H. E. Patten and W. R. Mott describe experiments on the electrolytic deposition of metallic lithium from solutions of lithium chloride in ethyl, propyl, butyl and amyl alcohols. By the use of organic solvents the electrolytic separation of metals not obtainable from aqueous solutions seems possible in many cases.

IN the April number of the *American Chemical Journal* Messrs. H. C. Jones and F. H. Getman discuss the nature of concentrated solutions of electrolytes. As the result of an extended investigation of the freezing points, boiling points and conductivities of such solutions, the authors arrive at the conclusion that combination takes place between the solvent and the dissolved substance. As a consequence of this, such solutions are really more concentrated than they would appear to be from the amount of dissolved substance present in them, and many of the discrepancies exhibited by concentrated solutions are explainable.

THE April number of the *New Philosophy*, published by the Swedenborg Scientific Association, contains some interesting notes in reference to Swedenborg's work in chemistry. Whilst Prof. van 't Hoff acknowledges it as the first work which anticipated the modern science of stereochemistry, others regard Swedenborg's work as having had absolutely no influence upon chemical thought or discovery. Prof. F. W. Clarke recently described it as "the

prototype of a class of speculative treatment, considerable in number, some of them recent, and all of them futile."

IN the current number of the *Zeitschrift für anorganische Chemie*, Prof. B. Brauner describes the preparation and properties of acid sulphates of the rare earths. The cerium salt has the formula $Ce_2(SO_4)_3.3H_2SO_4$, and salts of the same type have also been obtained for lanthanum, praseodymium, neodymium, samarium and yttrium. These acid sulphates are only incompletely converted into the normal salts at high temperatures, and the author's opinion is that all atomic weight determinations of the rare earth metals, in which the sulphates obtained synthetically have been employed, are on this account inaccurate.

IN the March number of the *Physical Review*, Mr. T. E. Doubt describes some experiments dealing with the effect of the intensity on the velocity of light. The results of these experiments justify the conclusion that for light travelling in air a change in intensity in the ratio of 1 to 290,000 does not alter its velocity by as much as 57 centimetres per second. In the case of water, a change in intensity in the ratio of 1 to 43,000 does not alter the velocity by as much as 80 centimetres per second, that is, by 1 part in 1000 million parts.

THE additions to the Zoological Society's Gardens during the past week include a Pig-tailed Monkey (*Macacus nemestrinus*) from India, presented by Mrs. Mackenzie Fraser; a Smooth-headed Capuchin (*Cebus monachus*) from South-east Brazil, presented by Mr. Arthur Collins; a Ruffed Lemur (*Lemur varius*) from Madagascar, presented by Lady Constance Stewart Richardson; a Pigmy Hog (*Porcula salviana*) from Bhotan, presented by Mr. D. H. Felce; two Markhoors (*Capra megaceros*) from North-east India, two Punjaub Wild Sheep (*Ovis cycloceros*) from North-west India, presented by Colonel Deane; three Chinchillas (*Chinchilla lanigera*) from Chili, presented by Mr. Andres Ker; two Coypu Rats (*Myopotamus coypus*) from South America, presented by Mr. H. L. Horsfall; two Ring-tailed Pigeons (*Columba caribbaea*) from Jamaica, presented by Mr. D. Seth-Smith; two Spur-winged Geese (*Plectropterus gambensis*) from West Africa, presented by Mr. J. Lemberg; two Nutmeg Fruit Pigeons (*Myristicivora bicolor*) from Moluccas, two Imperial Nicobar Fruit Pigeons (*Carpophaga insularis*) from the Nicobar Islands, four Andaman Teal (*Nettion albigulare*), three Andaman Banded Crakes (*Rallina canningi*), six Great-billed Andaman Parrakeets (*Palaeornis magnirostris*) from the Andaman Islands, presented by the Government of India; an Exanthematic Monitor (*Varanus exanthematicus*) from West Africa, presented by Mr. Dayrell; a Rufescent Snake (*Leptodira hotambioea*) from South Africa, presented by Mr. B. McMillan; an Allen's Bassaricyon (*Bassaricyon alleni*), six Red and Black Snakes (*Erythrolampus venustissimus*) from South America, an Australian Cassowary (*Casuarius australis*), a Gould's Monitor (*Varanus gouldi*), a Lace Monitor (*Varanus varius*), a Blue-tongued Lizard (*Tiliqua scincoides*), a Derbian Wallaby (*Macropus derbianus*) from Australia, a Sooty Phalanger (*Trichosurus fuliginosus*) from Tasmania, two Australian Barn Owls (*Strix delicatula*) from Australia, an Orton's Guan (*Penelope ortoni*) from Ecuador, a Gold-crested Mynah (*Ampeliceps coronatus*) from India, a Sarus Crane (*Grus antigone*) from Northern India, five Lineated Sand Skinks (*Chalcides lineatus*), South European; four Californian Newts (*Molge torosa*) from California, deposited; a Black Ape (*Cynopithecus niger*) from the Celebes, ten Crested Pigeons (*Ocyphaps lophotes*) from Australia, purchased.

OUR ASTRONOMICAL COLUMN.

SOLAR WORK AT THE SMITHSONIAN ASTROPHYSICAL OBSERVATORY.—Incorporated in the annual report of the Smithsonian Institution, for the twelve months ending June 30, 1903, is a report of the work performed in the Astrophysical Observatory, during that period, by Mr. C. G. Abbot who is in charge.

A new horizontal telescope of 20 inches aperture and 140 feet focal length, fed by a novel form of two-mirror cœlostat, and fitted with an apparatus for thoroughly churning the air inside the tube during the observations, has been mounted for the bolographic study of the solar image, and especially sun-spot energy spectra and the absorption of the solar envelope.

The most notable result of the study of the atmospheric absorption during the above named period was the decreased transparency of the atmosphere, at Washington, for all wave-lengths, but especially for the violet and ultra-violet radiations. Other results showed that this result was not caused by an excess of moisture in the atmosphere. Several plates which are included in the report show a diagrammatic view of the new instrument, typical "bolographic energy" and "atmospheric transparency" curves, a curve showing the distribution of radiation in the normal solar spectrum outside the earth's atmosphere, and a photograph of the large cœlostat with the second mirror.

METEOR RADIANTS OBSERVED AT ATHENS.—A communication from Prof. D. Eginitis to No. 3941 of the *Astronomische Nachrichten* gives a list of the radiants observed at Athens during 1902. Two radiants not given in Denning's "General Catalogue" were recorded in June and July, respectively, as follows:—

June 27, 10h. 58m. − 12h. 16m. (Athens M.T.) $\alpha = 230°$, $\delta = +73°$
July 29, 10h. 40m. − 11h. 27m. („) $\alpha = 85°$, $\delta = +85°$

Several of the radiants obtained from the observations at Athens differ considerably both in time and position from their respective values given in the above named catalogue.

The observed radiant for the Perseid shower spreads over a large area, and the principal centre, situated near to η Persei, alters its position considerably. The Perseids from the region near to α Persei were generally red and bright, whilst those from near η Persei were fainter and of a reddish-yellow colour.

SOLAR FACULÆ AND PROMINENCE VARIATIONS.—In a paper communicated to No. 3, vol. xxxiii., of the *Memorie della Società degli Spettroscopisti Italiani*, Prof. Mascari analyses the latitude and frequency variations of faculæ, as observed at Catania, in a manner similar to that recently used by Sir Norman and Dr. Lockyer, whose results he corroborates, for the spots and prominences.

After discussing the data obtained from his observations in a series of tables and curves, he arrives at the following general conclusions:—(1) The zone of maximum activity of the groups of faculæ lies between the mean latitude $\pm 45°$ and the equator, and pursues a movement parallel to, and coincident with, that of the spots, but the inverse of that of the prominences. (2) The faculæ beyond the principal maximum, in the equatorial region of each hemisphere, are not represented in the polar regions. (3) The centre of maximum activity of the prominences occurs generally in the region of minor activity of the faculæ.

MAGNITUDE OBSERVATIONS OF NOVA PERSEI.—In No. 3941 of the *Astronomische Nachrichten*, Father Hagen, S.J., gives a list of the magnitudes of Nova Persei as observed at Georgetown (U.S.A.) with a 12-inch refractor, from June 19, 1901, to April 18, 1903. The magnitude on the latter date, from an observation made when the Nova was near the horizon, was 11·05.

A similar list of magnitude observations, made at Kalocsa by Father M. Esch, S.J., during the period July 8, 1901 to March 22, 1902, is given in No. 3943 of the same journal

COMET 1904 *a*.—Numerous observations of this comet are recorded in Nos. 3943–4 of the *Astronomische Nachrichten*. Dr. Hartwig, observing at Bamberg on April 17, recorded the total magnitude as 9·0, and the magnitude of the nucleus alone as 10·0. The comet had a broad divided tail 4′ long, the mean position angle of which was 211°; the coma was 1′·5 in diameter.